

Application No. 10/686,138
Response dated January 21, 2008
Reply to Office Action of December 27, 2007

RECEIVED
CENTRAL FAX CENTER
JAN 22 2008

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A stent, comprising:
structural material substantially invisible under magnetic resonance imaging (MRI) visualization that forms a generally tubular structure having at least a first cell and a second cell, spaced apart from the first cell, the first cell and the second cell facing different directions; and
a radio frequency (RF) marker that forms generally concentric loops on only one side of each of the first cell and the second cell of the generally tubular structure.
2. (Previously Presented) The stent of claim 1 wherein where the structural material includes struts defining the first cell and the second cell and connectors that interconnect the first cell and the second cell.
3. (Previously Presented) The stent of claim 2 wherein the struts are of a ceramic material and the connectors are of a flexible polymer.
4. (Previously Presented) The stent of claim 1 wherein the first cell and the second cell are located generally at a first end of the tubular structure and have orthogonal axes generally perpendicular to each other.
5. (Previously Presented) The stent of claim 4 wherein the stent further includes a third cell and a fourth cell having the RF marker that forms generally concentric loops on only one side of each of the third cell and the fourth cell, where the third

Rev. 12/06

Page 2 of 7

Application No. 10/686,138
Response dated January 21, 2008
Reply to Office Action of December 27, 2007

cell and the fourth cell are located generally at a second end opposite the first end of the tubular structure.

6. (Previously Presented) The stent of claim 5 wherein the first cell, the second cell, the third cell and the fourth cell each face different directions relative to one another.

7. (Previously Presented) The stent of claim 6 wherein the first cell, the second cell, the third cell and the fourth cell each have orthogonal axes that are generally perpendicular to each other.

8. (Previously Presented) The stent of claim 7 wherein at least one of the cells RF energy under a magnetic field applied to the stent.

9. (Previously Presented) The stent of claim 1 wherein the concentric loops of the RF marker are embedded in the structural material of the stent.

10.-11. (Canceled)

12. (Original) The stent of claim 1 and further comprising:
a magnetic susceptibility marker connected to the generally tubular structure.

13. (Previously Presented) A medical device for use in a body cavity, comprising:

a structure formed of a material substantially invisible under magnetic resonance imaging (MRI) visualization, where a peripheral surface of the structure defines two or more cells at a first end of the structure; and

a radio frequency (RF) marker located on only the peripheral surface of the structure that delineates a circumference of each of the two or more cells of the

Application No. 10/686,138
Response dated January 21, 2008
Reply to Office Action of December 27, 2007

structure to emit sufficient RF energy under MRI visualization to disturb hydrogen atom spins of at least one voxel.

14. (Previously Presented) The medical device of claim 13 wherein the RF marker comprises generally concentric loops of conductive material.

15. (Previously Presented) The medical device of claim 13 wherein the cell is interconnected to additional cells of the structure by connectors of a flexible polymer.

16. (Previously Presented) The medical device of claim 13 wherein the two or more cells define at least a portion of a peripheral circumference of the structure.

17. (Previously Presented) The medical device of claim 13 wherein the peripheral surface defines two or more cells at a second end of the structure opposite the first end of the structure, where the RF marker delineates the circumference of each of the two or more cells at the second end.

18. (Previously Presented) The medical device of claim 17 wherein at least the RF maker are oriented relative to one another to generate the RF energy under magnetic fields applied in different directions.

19. (Previously Presented) The medical device of claim 13 wherein the RF marker is embedded in the structure.

20.-21. (Canceled)

22. (Original) The medical device of claim 13 and further comprising:
a magnetic susceptibility marker connected to the structure.

Rev. 12/06

Page 4 of 7

Application No. 10/686,138
Response dated January 21, 2008
Reply to Office Action of December 27, 2007

23. (Previously Presented) A method of implanting a medical device, comprising:

inserting the medical device having a generally tubular structure formed of material substantially invisible under magnetic resonance imaging (MRI) visualization, where the generally tubular structure includes two or more cells positioned at either end of the generally tubular structure and oriented generally orthogonal to each other, each of the two or more cells having a radio frequency (RF) marker that defines a perimeter of each cell, into a body cavity;

exposing the medical device to a magnetic field generated by a MRI system; and

visually detecting changes in atomic spins due to radio frequency (RF) energy emitted, under influence of the magnetic field, by the RF marker on the medical device while the generally tubular structure apart from the cell with the RF marker remains substantially invisible under MRI visualization.

24. (Original) The method of claim 23 wherein visually detecting comprises:

visually detecting changes in atomic spins due to both the RF marker and a magnetic susceptibility marker.